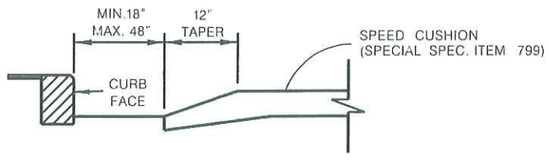
GENERAL NOTES

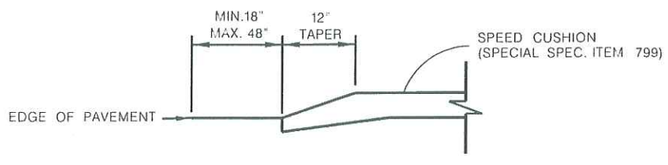
1. SPEED HUMPS WILL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE TRAFFIC ENGINEERING DIVISION.
2. SPEED HUMPS, TYPE II SHALL BE COMPRISED OF MODULAR RUBBER CUSHIONS AS OUTLINED IN SPECIAL SPECIFICATION ITEM 799.
3. CONTRACTOR SHALL CONTACT THE CONSTRUCTION COORDINATOR AT 207-2075 BEFORE ANY STREET IS TEMPORARILY CLOSED FOR CONSTRUCTION.
4. THE DISTANCE BETWEEN SPEED HUMPS WILL BE DETERMINED BY THE TRAFFIC ENGINEERING DIVISION.
5. TRAFFIC ENGINEERING DIVISION WILL IDENTIFY THE LOCATIONS OF ALL SIGNS RELATED TO THE SPEED HUMPS.
6. NO PART OF A SPEED HUMP SHALL BE LOCATED IN FRONT OF A DRIVEWAY APPROACH, RATHER THEY SHOULD BE A MINIMUM OF 6 FEET FROM THE EDGE OF DRIVEWAY, WHEN PRACTICAL.
7. SEE TRAFFIC SIGN DETAILS FOR INFORMATION ON ① ② ③
8. SPEED HUMPS SHOULD BE PLACED AS CLOSE AS POSSIBLE TO PROPERTY LINES INSTEAD OF MID-LOT, WHERE PRACTICAL.
9. SPEED HUMPS SHOULD BE INSTALLED AT A RIGHT ANGLE TO THE CENTERLINE TANGENT OF THE ROADWAY.
10. TRAFFIC CONTROL CONSISTING OF SIGNS AND MARKINGS SHALL BE PROVIDED TO ADVISE ROADWAY USERS OF A SPEED HUMP'S PRESENCE AND TO GUIDE THERE SUBSEQUENT ACTIONS. TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES(TMUTCD).
11. ALL SIGNS AND MARKINGS WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS PER ITEM 531, 533, 536.2, 536.5.
12. CONTRACTOR SHALL NOT OPEN SPEED HUMP TO TRAFFIC UNTIL ALL REQUIRED WARNING SIGNS AND MARKINGS ARE COMPLETE.
13. CONTRACTOR WILL MAINTAIN TEMPORARY MARKINGS UNTIL PERMANENT MARKINGS ARE INSTALLED.
14. CONTRACTOR WILL CHECK WITH TRAFFIC OPERATIONS FOR THE SPECIFICATIONS ON THE SIGN EMBLEM AND THE SPEED HUMP MARKINGS AT 207-3951.
15. CONTRACTOR SHALL COMPLETE THE CUSHION INSTALLATION TO FORM ONE COMPLETE HUMP BEFORE LEAVING THE JOBSITE.
16. CONTRACTOR SHALL WORK ONE HALF OF THE STREET AT A TIME AND MAINTAIN TWO-WAY TRAFFIC WITH CERTIFIED FLAGGERS.
17. ROADWAYS 36' WIDE OR WIDER, MINIMUM CURB TO CUSHION EDGE SHALL BE 48"

EDGE DETAIL

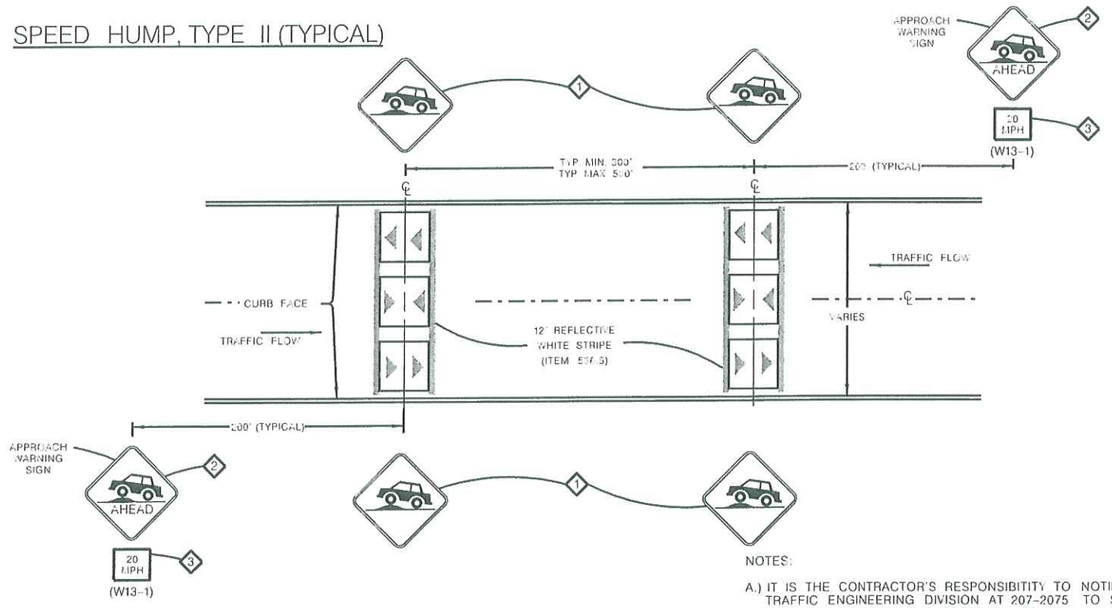
STANDARD CURB



NO CURB

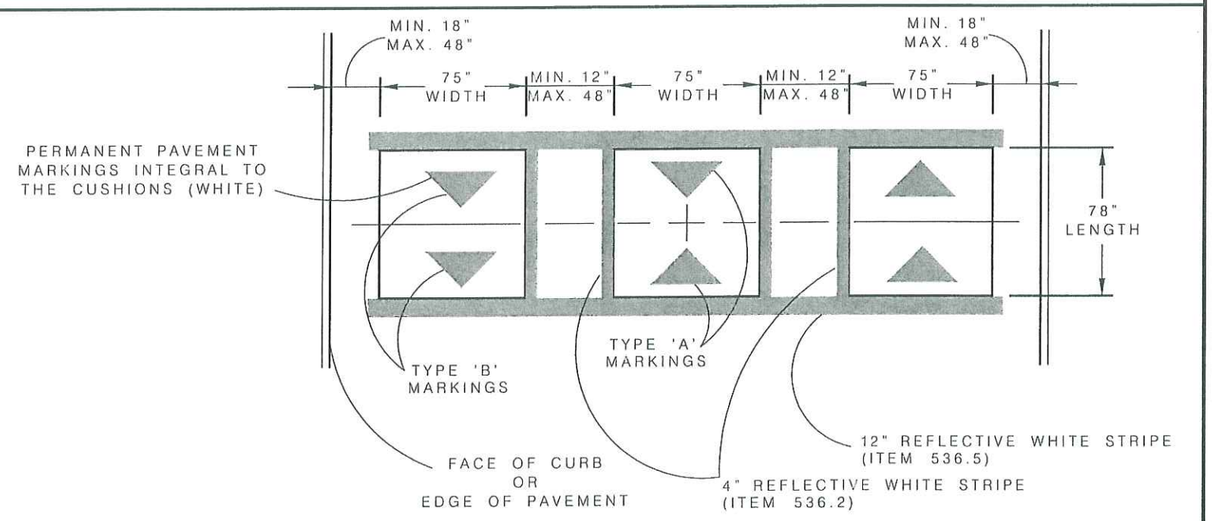


SPEED HUMP, TYPE II (TYPICAL)



NOTES:

A.) IT IS THE CONTRACTOR'S RESPONSIBITITY TO NOTIFY THE TRAFFIC ENGINEERING DIVISION AT 207-2075 TO SCHEDULE THE INSPECTION OF THE SPEED HUMPS.



PAVEMENT WIDTH (FT)	NO. OF CUSHIONS	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)
30	3	33.5	75	34	75	34	75	33.5	–	–	–	–
36	4	48	75	12	75	12	75	12	75	48	–	–
40	4	48	75	28	75	28	75	28	75	48	–	–
44	4	48	75	44	75	44	75	44	75	48	–	–

* REFER TO SHEET 2 OF 2 FOR ADDITIONAL STREET WIDTHS

No:	DATE:	REVISION:	DRWN:	CHKD:	APPR:
1	12.5.02	MARKINGS	JB	KB	KB
2	2.21.03	LOCATION DETAIL	JB	KB	KB
3	8.26.03	GENERAL NOTES	JB	KB	KB
4	6.30.05	DETAIL	DH	KB	KB
5	3.22.11	SPACING CHARTS	BT	BT	KB

CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION
SPEED HUMP, TYPE II

1 of 2

UPDATE BY: W. THORPE MAR 2011 | APPR.BY: K.M. BUCKLEW JAN 2002 TRAFFIC DESIGN ENGINEER
DSGN.BY: K.M. BUCKLEW JAN 2002
CHKD.BY: K. BUCKLEW MAR 2011 | APPR.BY: JAN 2002
REF.NO: SCALE: NTS
PLAN NO.

TYPICAL INSTALLATION PROCEDURE FOR MODULAR RUBBER CUSHION

1. LAY OUT PIECES FOR THE CUSHION (REFER TO MODULAR RUBBER CUSHION SPEED HUMP MARKINGS SHEETS AND TO SPEED HUMP CUSHION SPACING CHART). PLACE THE ANGLE IRONS IN THE INDENTATION/GROOVE OF THE CUSHION. ALL JOINTS BETWEEN PIECES SHOULD BE TIGHTLY JOINED. THE ARROW MARKINGS ON THE RAMP PIECES SHOULD FACE THE CORRECT DIRECTION ON THE STREET (ARROWS POINT IN THE DIRECTION OF TRAFFIC)

2. SLIDE THE CORNER AND THE TWO CENTER RAMP PIECES OUT TO EXPOSE THE HOLES IN THE ANGLE IRONS.

3. DRILL THROUGH THE ANGLE IRON HOLES TO A DEPTH OF 4 INCHES INTO THE PAVEMENT.

4. BLOW ALL DEBRIS OUT OF HOLES.

5. INSERT TWO (2) PUMPS OF RESIN INTO EACH HOLE FOLLOWED BY A FLAT, TORQUE HEAD BOLT AND PLASTIC ANCHOR (ASSEMBLE THE BOLT AND ANCHOR AND HAMMER IN IMMEDIATELY AFTER PLACING RESIN BECAUSE THE RESIN WILL SET QUICKLY IN BOTH THE HOLE AND RESIN GUN - APPROX. 2-4 MINUTES)

6. USE IMPACT WRENCH TO DRILL BOLTS INTO THE ANGLE IRON. DO NOT OVER IMPACT BOLTS BECAUSE STRIPPING WILL OCCUR.

7. REPLACE CORNER PIECES AND TWO CENTER RAMP PIECES.

8. DRILL THE PAVEMENT APPROX. 7 INCHES THROUGH EACH OF THE HOLES IN THE CUSHION PIECES (4 INCHES INTO PAVEMENT).

9. BLOW ALL DEBRIS OUT OF HOLES.

10. INSERT TWO (2) PUMPS OF RESIN INTO EACH HOLE FOLLOWED BY A HEX HEAD BOLT, WASHER AND PLASTIC ANCHOR (ASSEMBLE THE WASHER, BOLT, AND ANCHOR THEN HAMMER IN THE HOLE IMMEDIATELY AFTER PLACING RESIN BECAUSE THE RESIN WILL SET QUICKLY IN BOTH THE HOLE AND RESIN GUN - APPROX. 2-4 MINUTES)

11. USE IMPACT WRENCH TO DRILL BOLTS INTO THE CUSHION PIECES. DO NOT OVER TIGHTEN BOLTS BECAUSE STRIPPING WILL OCCUR.

12. INSERT RUBBER PLUGS.

13. BOLT INSTALLATIONS SHALL BE VERIFIED BY THE INSPECTOR BEFORE THE RUBBER PLUGS ARE INSTALLED.

PROCEDURE FOR PICKING UP SPEED HUMP MATERIAL AT COSA FACILITY

1. THE SPEED HUMP MATERIAL WILL BE STORED AT THE TRAFFIC OPERATIONS FACILITY AT 223 S. CHERRY ST., SAN ANTONIO, TX 78203.

2. SPEED HUMP MATERIAL MAY ONLY BE COLLECTED DURING THE WEEKDAY BETWEEN THE HOURS OF 7:30AM AND 4:30PM.

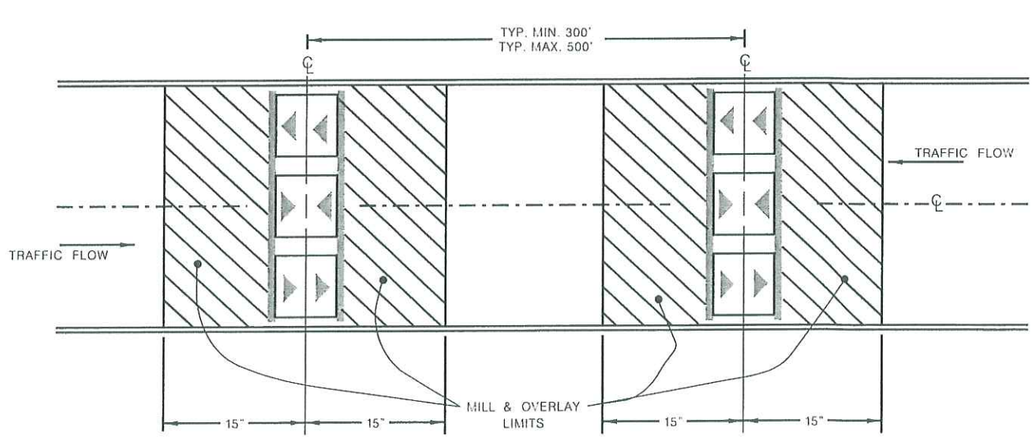
3. CONTRACTOR WILL CONTACT SPEED HUMP COORDINATOR, KENNARD GIVENS AT 215-5127 AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE A TIME TO PICK UP THE MATERIAL.

4. INSPECTOR MUST BE PRESENT WHEN MATERIAL IS COLLECTED.

SPEED CUSHION SPACING

Pavement Width (ft)	Pavement Width (in)	No. of Cushions	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)
20	240	2	30	75	30	75	30						
21	252	2	34	75	34	75	34						
22	264	2	39	75	36	75	39						
23	276	2	45	75	36	75	45						
24	288	2	48	75	42	75	48						
25	300	2	51	75	48	75	51						
26	312	3	21.5	75	22	75	22	75	21.5				
27	324	3	24	75	25.5	75	25.5	75	24				
28	336	3	27.5	75	28	75	28	75	27.5				
29	348	3	30.5	75	31	75	31	75	30.5				
30	360	3	33.5	75	34	75	34	75	33.5				
31	372	3	37.5	75	36	75	36	75	37.5				
32	384	3	40.5	75	39	75	39	75	40.5				
33	396	3	42.5	75	43	75	43	75	42.5				
34	408	3	45.5	75	46	75	46	75	45.5				
35	420	3	48	75	49.5*	75	49.5*	75	48				
36	432	4	48	75	12	75	12	75	12	75	48		
37	444	4	48	75	16	75	16	75	16	75	48		
38	456	4	48	75	20	75	20	75	20	75	48		
39	468	4	48	75	24	75	24	75	24	75	48		
40	480	4	48	75	28	75	28	75	28	75	48		
41	492	4	48	75	32	75	32	75	32	75	48		
42	504	4	48	75	36	75	36	75	36	75	48		
43	516	4	48	75	40	75	40	75	40	75	48		
44	528	4	48	75	44	75	44	75	44	75	48		

* INDICATES THAT MEASUREMENTS ARE ABOVE MAX. SPACING



MILL AND OVERLAY LIMITS

CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION

SPEED HUMP, TYPE II

2 of 2

DRWN.BY: RC MAY 2004
DSGN.BY:
CHKD.BY:
APPR.BY: TRAFFIC DESIGN ENGINEER
APPR.BY:
REF.NO:
SCALE: NTS
PLAN NO.